

- scales, interrupted by narrow dark ring near apex..... *A. lungae*
 Mesonotum with a vestiture of white scales throughout; median dark wing spot not extending to veins 1 and 2..... 3
3. Labium all dark except for a few white or yellowish scales at extreme apex... *A. p. farauti*
 Labium with a vestiture of white or creamy scales on apical third, interrupted by a narrow ring of dark scales just before apex....
 *A. p. punctulatus*

Males

The males of the three forms of *Anopheles* in this area have the labium all dark with a few light scales on apex; the labella are dull yellow. The males of *A. lungae* can be distinguished on mesonotal vestiture and wing spotting which are similar to the female. The males of *A. p. punctulatus* and *A. p. farauti* have not as yet been successfully separated.

Larvae

1. Inner clypeals close together. *Bironella(walchi?)*
 Inner clypeals widely separated..... 2

2. Outer clypeals extremely short, usually less than one quarter the length of inner clypeals; pecten with two distinct series of spines, spines 10-12 in number; palmate hair on II not pigmented..... *A. lungae*
 Outer clypeals at least half as long as inner clypeals; pecten with 14-17 subequal spines..... 3
3. Clypeal hairs slender, without branches; prothoracic hairs 1 and 2 with rather slender shafts, hair 5 with long lateral branches; palmate hair on II less developed than on III; lateral hairs on IV and V with three to four branches..... *A. p. punctulatus*
 Clypeal hairs thickened, with a few fine lateral branches; prothoracic hairs 1 and 2 with thickened shafts, hair 5 with very short lateral branches; palmate hair on II developed as strongly as on III; lateral hairs on IV and V simple or double... *A. p. farauti*

Remarks.—The larvae of *A. p. punctulatus* from Guadalcanal agree in every respect with the chaetotaxy represented for this form in Ross and Roberts' "Mosquito Atlas," Part 2, p. 12, 1943. Adults of *A. p. punctulatus* have never been collected attempting to bite humans on this island.

ENTOMOLOGY.—*Some relationships of Anopheles lungae Belkin and Schlosser (Diptera: Culicidae).*¹ ALAN STONE, U. S. Bureau of Entomology and Plant Quarantine.

The foregoing excellent description of *Anopheles lungae* is sufficient to distinguish it from all other described species, but it seems advisable to compare it with certain closely related species that were not available to its describers. This is particularly true since it might be confused with *Anopheles tessellatus* Theobald or *A. longirostris* Brug. These three species have the following characters in common which distinguish them from the related species, *punctulatus* Dönitz, *annulipes* Walker, *farauti* Laveran, and *amictus* Edwards: (1) Scales of the halteres entirely pale, creamy white; (2) scutum with scales on the anterior margin only; (3) outer clypeal hairs of the larva very short, much less than half as long as the inner clypeal hairs.

The females of the two close relatives of *lungae* are distinguished from it by the following characters:

A. longirostris: At least apical half of proboscis pale; proboscis about one-fifth

longer than the palpi, strongly decurved; third palpal segment (antepenultimate) with apical half pale.

A. tessellatus: Third palpal segment with apical half pale.

The larva of *lungae* closely resembles that of *tessellatus*, but prothoracic hair 1 of *tessellatus* has a slender shaft with 2-6 branches. The larva of *longirostris*, as described, shows no differences from *lungae*, but it is quite probable that a direct comparison of the two species will reveal some.

The distribution of these three species is of some interest in view of their close relationship. *A. tessellatus* has a wide Oriental distribution from India to Hong Kong, the Netherlands Indies, the Philippines, with a few records from the Moluccas, and one questionable one from western New Guinea. *A. longirostris* has been collected from several places in New Guinea and from Kavieng, New Ireland. *A. lungae* is confined to the Solomon Islands. The distribution of the three species has not yet been found to overlap.